Proposed Temporary Shop & Services for a Period of 3 Years
at
Lots 387 S.R (Part) & 387 RP (Part) in D.D. 122, Ping Shan, Yuen Long, N.T.

Annex 1 Drainage Proposal

1.1 Existing Situation

A. Site particulars

1.1.1 The application site occupies an area of about 64m^2.

1.1.2 The site is serviced by a vehicular access leading from Tsui Sing Road. The area adjacent to the proposed development is mainly New Territories Exempted Houses.

B. Level and gradient of the subject site & proposed surface channel

1.1.3 It has a gradient sloping from northwest to southeast from about +4.6mPD to +4.5mPD. (**Figure 3**)

C. Catchment area of the proposed drainage provision at the subject site

1.1.4 The land to the north, south, west and east is found about the same level as the application site. In particular, the application site is surrounded by existing New Territories Exempted Houses with drainage facilities. As such, no external catchment has been identified.

D. Particulars of the existing drainage facilities to accept the surface runoff collected at the application site

1.1.5 As shown in **Figure 3,** a public drain is found to the south of the application site. The stormwater intercepted by the proposed surface channel at the application site will be dissipated to the said public drain.

1.2 Runoff Estimation

1.2.1 Rational method is adopted for estimating the designed run-off

$$Q = k \times i \times A/3{,}600$$

Assuming that:

i. The area of the catchment is approximately 64m^2; (**Figure 3**)
ii. It is assumed that the value of run-off co-efficient (k) is taken as 1.0.

$$\text{Difference in Land Datum} = 4.6\text{m} - 4.5\text{m} = 0.1\text{m}$$

$$L = 10\text{m}$$

$$\therefore \text{ Average fall} = 0.1\text{m in } 10\text{m} \quad \text{or} \quad 1\text{m in } 100\text{m}$$

According to the Brandsby-Williams Equation adopted from the "Stormwater Drainage Manual – Planning, Design and Management" published by the Drainage Services Department (DSD),

$$\text{Time of Concentration } (t_c) = 0.14465 \left[L/(H^{0.2} \times A^{0.1}) \right]$$

$$t_c = 0.14465 \left[10/1.^{0.2} \times 64^{0.1}) \right]$$

$$t_c = 0.95 \text{ minutes}$$

With reference to the Intensity-Duration-Frequency Curves provided in the abovementioned manual, the mean rainfall intensity (i) for 1 in 50 recurrent flooding period is found to be 350 mm/hr

By Rational Method,

$$Q_1 = 1 \times 350 \times 64 / 3{,}600$$

$$\therefore Q_1 = 6.22 \text{ l/s} = 373.33 \text{ l/min} = 0.006 m^3/s$$

In accordance with the Chart or the Rapid Design of Channels in "Geotechnical Manual for Slopes", for an approximate gradient of about 1:150 and 1:200 in order to follow the gradient of the application site, 150mm surface U-channel along the site periphery is considered adequate to dissipate all the stormwater accrued by the application site and adjacent land.

1.3 Proposed Drainage Facilities

1.3.1 Subject to the calculations in 1.2 above, it is determined that proposed 150mm concrete surface U-channel along the site periphery is adequate to intercept storm water passing through and generated at the application site (**Figure 3**).

1.3.2 The collected stormwater will then be discharged directly to the public drain to the south of the application site as shown in **Figure 3**.

1.3.3 All the proposed drainage facilities will be provided and maintained at the applicant's own expense. Also, sand trap and surface U-channel will be cleaned at regular interval to avoid the accumulation of rubbish/debris which would affect the dissipation of storm water.

1.3.4 The provision of the proposed surface channel will follow the gradient of the application site. All the proposed drainage facilities will be constructed and maintained at the expense of the applicant.

1.3.5 Prior to the commencement of the drainage works, the applicant will seek consent from District Lands Office/Yuen Long and relevant land owners for the provision of drainage facilities outside the application site.

1.3.6 The proposed development would not affect the existing ditches, drains and obstruct the flow of the flow of surface runoff.

1.3.7 The provision of surface channel at site boundary is detailed hereunder:

(a) Soil excavation at site periphery, is inevitably for the provision of surface channel. The accumulation of excavated soil at the site periphery would obstruct the free flow of the surface runoff from the surroundings. Hence, the soil will be cleared at the soonest possible after the completion of the excavation process.

(b) In view of that soil excavation may be continued for several working days, surface channel will be dug in short sections and all soil excavated will be cleared before the excavation of another short section.

(c) 100mm gap will be provided at the toe of site hoarding to allow unobstructed flow of surface runoff.

Annex 2 Estimated Traffic Generation

2.1 The application site is served by a vehicular track leading from Tsui Sing Road. Having mentioned that the site is intended for shop & services for selling air-conditioner and air-conditioning works in only 72m^2, traffic generated by the proposed development is extremely insignificant.

2.2 The application site is abutting a public vehicle parks (TPB Ref.: A/YL-PS/628 & 657). The proposed development will show the models of the sir conditioners only and no delivery of sir conditions will be involved at the application site. In view of that the application site is surrounded by New Territories Exempted Houses, the clients may make use of public vehicle park surrounding the application site.

2.3 The estimated average traffic generation and traffic generation rate at peak hours are as follow:

Type of Vehicle	Average Traffic Generation Rate (pcu/hr)	Average Traffic Attraction Rate (pcu/hr)	Traffic Generation Rate at Peak Hours (pcu/hr)	Traffic Attraction Rate at Peak Hours (pcu/hr)
Private car	0.2	0.2	0	0

Note 1: The opening hour of the proposed development is restricted to 9:00 a.m. to 7:00 p.m. from Mondays to Sundays including public holidays.
Note 2: The pcu of private car is taken as 1.
Note 3: Morning peak is defined as 7:00a.m. to 9:00a.m. whereas afternoon peak is defined as 5:00p.m. to 7:00p.m.

2.4 As shown in the above estimation, it is estimated that the proposed development would not generate significant amount of traffic. It would not affect the traffic condition of Tsui Sing Road.

2.5 In association with the intended purpose, adequate space for manoeuvring of vehicle would be provided and queueing up of traffic would not be the result especially that the traffic generated is insignificant.